

PERFORMANCE + PROTECTION



Injury Protection POV | Data Collection Initiative & Tracking Study

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VT Advantec initiates comprehensive tracking study to chart the effects of its products on injury prevention. Data collected includes standardized metrics on participant athletes' pain, performance, and confidence, and compares results before and after using our products.

BACKGROUND

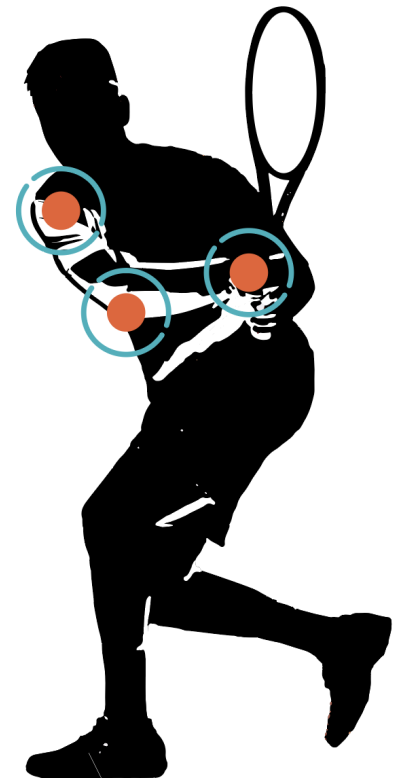
Tennis players, like any competitive athlete, know that performance comes at a risk for injury, and one of the major injury culprits in tennis is racket vibration. When we built our vibration-absorbing products designed to improve performance and control on the court, we knew we needed to keep a close eye on their implications on players' risks of injury. We've been thrilled to find that our VT Advantec Grips and Strips also provide an overwhelming improvement in athletes' abilities to manage pain and injury.

VIBRATION AS A COMMON CULPRIT

Because our products modify vibration through the racket, we understood that we needed to take their implications on the rest of the body seriously. We immersed in the existing literature on a player's physiology and physical wellbeing, we conducted comprehensive research on the physics of vibration and physiology of tennis, and we tapped into a team of experts

and athletes to ensure we were covering all the important bases. Through this, there's clear consensus that:

- The mechanics of tennis and its repetitive nature lead to extensive physical strain on the body and many overuse injuries.¹ Just in making contact with the ball, there is extensive loading, torque, ground reaction forces and yes – vibration – that must be absorbed by the body.¹



¹Elliot B. (2006). Biomechanics and tennis. British Journal Of Sports Med. 40(5): 392-396.



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- This loading and torque absorption increases as players perform at a higher level due to the increased speed, power, and ball spin required to compete at those levels.
- For even the casual player, vibration is a culprit for common overuse injuries such as lateral epicondylitis (tennis elbow) and rotator cuff impingement. One study supports this by showing that the impact-induced vibration of the racket upon contact with the ball and the resulting strain on the arm is a suspected cause of many tennis overuse injuries.²

VT Advantec isn't the first company to realize that decreased vibration can both reduce injury risk and improve control. To date, however, the only products to hit the market have been string vibration dampeners. In studies conducted to assess their effectiveness in reducing racket frame vibration transfer to the forearm, they are often ineffective due to their poor ability to efficiently absorb the vibrations during ball contact (Porrmatikul, 2018). This may be due to their primary reliance of the physical properties of the strings to do all the work of dissipating vibration.

VIBRATION AS A COMMON CULPRIT

Our approach is that advanced material science offers a more innovative and effective way to achieve the results we all are seeking. The

chemical and physical properties of our Smart Layer Technology, coupled with our unique design make us confident that we have a leg up on dampeners and other products. Moreover, we hope to discover and share extensive and comprehensive data confirming the superiority of this approach.

We've initiated and rolled out a comprehensive tracking study to chart the effects of our products with actual users at all levels of play. Data collected includes participant athletes' reports of pain, performance, and confidence, and compares results before and after using our products. Initial findings are exciting and unequivocally demonstrate our users experience decreased pain, improved confidence on the court, and decreased time lost from play.

As a leader in data-driven product and material design, we know this approach will shape the future of performance and injury prevention technology in tennis. We are committed to providing updates on our studies, and more ways that VT Advantec products can keep tennis players both healthy and performing at their best.

For more information, or to apply to participate in our studies, please contact us at info@vtadvantec.com.

²Henning B. (2007). Biomechanics and tennis. *British Journal Of Sports Med.* 40(5): 392-396.